Service Manual

OASIS

Oxygen And Suction Integrated System

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1.0 Description of Symbols

Attention, see Instructions for Use

Use no oil

2.0 Product Description

Oasis is an oxygen flowmeter and a suction regulator integrated into one device, driven by a single oxygen cylinder.

It is designed to provide controllable delivery of supplemental oxygen and suction in emergency situations or when patients are being moved on patient trolleys.

Oasis is intended to be fitted to the head end of patient trolleys to provide easy access to both oxygen and suction where and when it is needed most. The integrated, sturdy design provides protection from damage in a harsh environment.

The oxygen flowmeter is of fixed orifice type, providing eleven pre-set flow rates selectable by turning the control knob to the required position. The flow rate at each position is shown through a window in the body of the flowmeter and is given in units of litres per minute (lpm). The patient or outlet connection barb is situated underneath the Oasis directly below the flowmeter control knob.

The suction device comprises a variable vacuum source to which a proprietary suction jar system can be connected. Vacuum is generated using the venturi principle. On turning the control knob, oxygen is fed to the venturi generator, which in turn provides a vacuum at the suction barb. The amount of vacuum is indicated by the vacuum gauge indicated in units of minus Kilo Pascals (-kPa) and minus Bar (-Bar). Vacuum is only noticeable on the gauge when an obstruction is perceived by the system. Occluding the output port or hose with your finger is a simple way of testing system performance.

To provide early indication that a cylinder is empty or has been turned off, a low pressure indicator is included. The indicator, situated on the front panel, shows red when there is no gas present. A pressure regulator is provided with the Oasis to reduce the high cylinder pressure to a safe working level. The regulator is permanently connected to the Oasis manifold.

3.0 Approvals

Oasis is a CE Marked device in accordance with the Medical Device Directive (93/42/EEC) and meets the requirements of the following Harmonised Standards:

EN738-1.....Pressure Regulators and Pressure Regulators with Flowmetering Devices

EN10079-3 .....Suction Equipment Powered from Vacuum or Pressure Source

4.0 General Safety Warnings

W1 Before using or servicing this equipment read through the entire instruction manual. Attempting to use this equipment without an appreciation of its correct operation, its limitations and the general safety warnings associated with compressed oxygen may result in patient or user injury.

W2 Oxygen therapy may be a critical treatment. A flowmeter should be used in strict accordance with the prescription and instructions of a qualified clinician. The effectiveness of supplemental oxygen therapy can only be determined by continuous monitoring of blood oxygen levels. It is essential that PaO2 or SpO2 monitoring is carried out when supplemental oxygen is prescribed.

W3 Ensure that the oxygen cylinder is securely fastened to the trolley base.

W4 When the flowmeter is turned off isolate the patient from the equipment by disconnecting the delivery tube from either the patient or the flowmeter.

W5 Only appropriately skilled service personnel working in controlled conditions must perform disassembly, assembly and testing of this equipment.

W6 Do not submerge in water or allow any fluid to enter the equipment. If you have reason to suspect that fluid or other ingress has occurred remove the device from use and contact the manufacturer.

W7 The performance of the device may be affected if it is stored or transported in temperatures outside of the range -20°C to +60°C.

W8 Check the cylinder contents before use and at regular intervals during use, as low cylinder pressure may result in poor or non-performance of the equipment. Always change the oxygen cylinder when the oxygen cylinder contents gauge is showing red.

W9 Hydrophobic filters for re-useable suction jars and disposable liner systems are designed for single use only and must be replaced after every patient use. Single Use products should be disposed of in accordance with hospital protocols. Do not attempt to clean and re-use disposable filters or liners.

W10 Oasis has been tested with the suction jar systems indicated in this manual. The use of suction jar systems other than those listed and/or approved by the manufacturer may result in poor or non-performance of the equipment.

W11 The accuracy of the flowmeter and suction device may be affected if the input pressure is other than that stated in the specifications.

W12 Oxygen is not flammable, but the presence of oxygen will drastically increase the rate and severity of combustion. Hydrocarbons such as oil or grease become highly combustible in the presence of oxygen. Oxygen must never be allowed to contact oil, grease or other petroleum-based substances.

W13 Never administer oxygen while smoking or when near an open flame.

W14 Oxygen cylinders have fill pressures up to 20 000 kPA (200 Bar). Never use medical oxygen from a cylinder without first reducing the pressure to a safe level through a suitable pressure regulator.

W15 Ensure that the threaded fittings or indexing pins on the regulator are properly mated and tightened before opening the cylinder valve.

W16 Never install a pin index regulator with more than one Yoke Seal between the cylinder and the regulator. Before attaching the regulator verify that the post valve is not already fitted with a Yoke Seal. Never add a second Yoke Seal to the regulator inlet while one is in place.

W17 Make sure that the pin-indexed or threaded fittings on the regulator inlet are compatible with the gas cylinder on which it is to be fitted. Never attempt to force an incompatible connection.

W18 The threaded bullnose connection on a UK medical oxygen cylinder may be the same as that for a UK medical air cylinder, ensure that you have the correct cylinder for the application. Oasis and its regulator are intended for use with oxygen only and must not be connected to an air cylinder.

W19 Before removing a regulator from a cylinder fully close the cylinder valve and release all gas from the regulator.

W20 Never use oxygen as a pressure medium to purge obstructed pipelines or equipment, to operate pneumatic tools, or to build up any pressure in tanks.

W21 Never permit compressed medical gases to enter a regulator suddenly. Always open the cylinder valve slowly. Do not stand in front of a regulator outlet when opening the cylinder valve.

W22 Do not use or store oxygen equipment near excessive heat (>50°C or 125°F) or an open flame.

W23 Use only lubricants recommended by the manufacturer when servicing the Oasis. The use of lubricants other than those recommended by the manufacturer may result in fire or explosion.

W24 Oasis must always be used in an upright position. When fitting Oasis to a patient trolley ensure that the front membrane panel is vertical.

5.0 Inspection and Maintenance Periods

Periodic Inspection (6 Monthly)

Can be performed with Oasis still connected to the patient trolley and in the hospital department in which the trolley is located.

Function Check (Annual)

Performance check on Oasis. Requires appropriate test equipment and therefore may require disassembly from the patient trolley for work to be done in workshop conditions.

Full Service (4 Years)

Strip down Service and full functional check. Requires appropriate test equipment and will require disassembly from the patient trolley for work to be done in workshop conditions.

6.0 Specification

General				
Operating, Storage and Transport Temperature Range		*-20°C to 60°C*		
Warranty		*1 Year*		
Flowmeter				
Nominal Flow Rate		*0, 0.5, 1, 1.5, 2, 3, 4, 5, 6, 8,10, 15*		
Flow Accuracy		*±10% of setting at 1 lpm and above, ±20% of setting below 1 lpm across the full input range*		
Effect on accuracy as a result of:				
i) varying inlet pressure		*Typically less than 15% change across the input pressure range*		
ii) varying outlet resistance		*Less than 1% of reading up to 5kPa (50cmH_2O) back pressure*		
iii) varying temperature		*Less than 0.2% of reading per degree Celsius*		
Delivery Hose		*6.0 mm inside diameter*		
Suction		*Medium Suction Option (60 kPa)*	*Medium/High Suction Option(90 kP)a*	*High Suction Option (150kPa)*
Vacuum Range		*0 to –60 kPa (+5kPa/-30kPa)*	*0 to –55 kPa (+5kPa/-30kPa*	*0 to –50 kPa (+5kPa/-30kPa)*
Vacuum Flow		*10 – 16 lpm*	*15-25 lpm*	*38 – 60 lpm*
Gas consumption (typical)		*20 lpm*	*30 lpm*	*85 lpm max*
Recommended Suction Hose		*7.5mm inside diameter*	*7.5mm inside diameter*	*7.5mm inside diameter*
ISO EN 10079-3 Rating		*Medium Vacuum Equipment*	*Medium Vacuum equipment*	*Medium Vacuum Equipment*
Regulator				
(P_1) Maximum Input Pressure [kPa]		20 000 kPa		
(P_3) Minimum Input Pressure [kPa]		900 kPa		
Outlet Pressure [kPa] *Stated at 10 000 kPa Input Pressure and flow of 1 lpm*		400 kPa		
Maximum Flow Capacity [lpm]		100 lpm		
(Q_1) Standard Discharge [lpm]		30		
(P_2) Outlet Pressure [kPa] *Stated at Input Pressure P_3 and flow Q_1*		400		

7.0 Suction Jar Systems

Oasis has been tested and found to be compatible with the suction jar systems detailed in the table below.

Some 2 Litre size jars shown in the table, whilst compatible with the Oasis suction regulator, are too tall and are liable to be broken should the trolley be lowered or put into the Trendelenberg position. These suction jar systems are therefore not compatible with Oasis and are shown with the manufacturer's part number crossed out (e.g. ~~XXX-XXXX~~). For the same reason all 3 Litre and larger suction jar systems are incompatible with Oasis.

		Suction Jar Size		
		0.8 / 1.0 Litre	**1.2 / 1.5 Litre**	**2.0 Litre**
Abbott				
Receptal	*Re-useable suction jar for disposable liner*	W064	E124	~~E123~~
	Disposable liner	L212	F807	~~F806~~
	Oasis cradle type	A	A	
Allegiance				
Medi-Vac Guardian	*Disposable canister*		1212CE	~~1220CE~~
	Oasis cradle type		B	
Medi-Vac Flex Advantage	*Re-useable suction jar for disposable liner*	65652-611	65652-616	
	Disposable liner	65651-910	65651-920	
	Oasis cradle type	B	B	
Medi-Vac CRD	*Re-useable suction jar for disposable liner*	65652-511	65652-516	
	Disposable liner	1510CE	1515CE	
	Oasis cradle type	B	B	
Tyco				
Sep-T-Vac	*Disposable canister*	8888-310003	8888-310052	~~8888-310151~~
	Oasis cradle type	B	B	
	Re-useable suction jar for disposable liner		8888-310839	~~8888-310813~~
	Disposable liner		8888-310821	~~8888-310805~~
	Oasis cradle type		B	
VacSax				
	Re-useable suction jar for disposable liner	3833-132		3833-090
	Disposable liner	9910-340		9910-208
	Oasis cradle type	B		B
Flowmeter Spa				
Monokit Autoclavable	*Autoclavable suction jar*	MAK1000		
	Oasis cradle type	A		
Monokit Disposable	*Re-useable suction jar for disposable liner*			
	Disposable liner	5113080		
	Oasis cradle type	B		

8.0 Decontamination Certificate

A valid decontamination certificate must accompany equipment returned for servicing. For reasons of Health & Safety, equipment returned to BPR Medical for service without a valid decontamination certificate cannot be accepted and will be returned without further processing.

9.0 Procedures for Periodic Inspection

The following safety warnings apply. Please read them carefully before you proceed: W1, W3, W5, W6, W7, W8, W9, W10, W11, W12, W13, W15, W16, W17, W18, W19, W20, W21, W22, W23 and W24

Undertake Periodic Inspection every 6 months or when there is reason to believe that the device has sustained damage or may not be working correctly. The aim of this inspection is to identify partial or complete function loss only.

Suction / Vacuum Gauge

Check gauge is in good condition, is appropriately aligned and does not appear damaged. Check function by turning the vacuum on (suction controller knob anti-clockwise with cylinder charged and turned on), place a finger over the suction barb outlet and check the gauge dial moves smoothly to a level below –60kPa.

Flowmeter

Check that the flowmeter is operational. Starting at zero turn the flowmeter control knob anti-clockwise through each position and ensure that oxygen is flowing at each setting.

Low Pressure Indicator

With a charged cylinder connected and turned on, check that the Low Pressure Indicator is withdrawn. Turn the cylinder off and discharge any oxygen in the system by turning on the suction control/flowmeter. The Indicator should move forward smoothly and show red.

High Pressure Hose

Inspect the high pressure oxygen hose assembly for damage or wear. Ensure that the swivel connection at the back of the Oasis moves freely.

Oasis Fixing

Oasis should be fixed horozontally to the patient trolley in a secure manner. Check that the Oasis is secure and that there is no movement. Tighten or reposition by adjustment of the two grub screws accessed from the back of the Oasis bracket. Check also the Suction Jar cage is secured adequately to the base of the trolley.

General Condition

Inspect the Oasis for signs of general damage or disrepair.

Service Due?

A Service Due date is detailed on the rating label, which should be checked to determine when service is next due.

10.0 Procedures for Functional Check

The following safety warnings apply. Please read them carefully before you proceed: W1, W3, W5, W6, W7, W8, W9, W10, W11, W12, W13, W15, W16, W17, W18, W19, W20, W21, W22, W23 and W24

A calibrated flowmeter with a maximum flow of at least 15 lpm and an accuracy of better than +/- 5% of reading is required for this test.

10.1 Flow Rate Test

Connect the regulator to a 1000 KPA oxygen pressure source.

Check the flow rate at each flow setting is within tolerance. The tolerance for flow settings of between 1 lpm to 15 lpm inclusive are +/- 10%, and +/- 20% for the 0.5 lpm flow setting.

Where a variable Oxygen pressure source is not available, the Oasis regulator can be connected to a half or fully charged cylinder. Note, however, input pressure has a marginal effect on flow rate and this may influence.

If the flow rates are out of tolerance in one direction (i.e. all are low or all are high) then a certain amount of calibration can be performed by increasing/decreasing respectively the output pressure of the regulator. Details of how to do this can be found in the Regulator Technical Manual.

10.2 Suction Flow Test

Ensure that the Oasis is connected to a charged gas supply as in 10.1 above.

Connect a 1 litre suction jar system to the Oasis Suction Barb using a 1m length of suction hosing. Take a similar length of suction tubing from the patient side of the suction jar and immerse it in a jar containing ½ litre of tap water.

Turn the suction control knob fully on and time how long it takes to evacuate the ½ litre of water. The suction performance of the Oasis should deposit the water into the suction jar within 30 seconds.

10.3 Vacuum Pressure

Ensure that the Oasis is connected to a charged gas supply as in 10.1 above. Check function by turning the vacuum on (suction controller knob anti-clockwise with cylinder charged and turned on), place your finger over the suction barb and check the gauge dial moves smoothly below the value given in the specification for the model of Oasis you are testing.

10.4 Suction Leak-Through

Ensure that the Oasis is connected to a charged gas supply as in 10.1 above and ensure that the Suction and Flowmeter functions are turned off.

Unscrew the Venturi Silencer and screw the Suction Exhaust Test Barb (refer Spares Parts Lists) into the Venturi Retainer. Connect one end of a length of hose to the Test Barb and rest the other in a glass of water. Place a finger over the Suction Barb and check that there are no gas bubbles coming from the length of hose, if there are then this would suggest suction leak-through.

10.5 Flowmeter Leak-Through

Ensure that the Oasis is connected to a charged gas supply as in 10.1 above and ensure that the Suction and Flowmeter functions are turned off.

Connect one end of a length of hose to the Flowmeter Output Barb and rest the other in a glass of water. Ensure that there are no gas bubbles coming from the length of hose, if there are then this would suggest flowmeter leak-through.

10.6 Oasis Leak Test

Ensure that the Oasis is connected to a charged gas supply as in 10.1 above and ensure that the Suction and Flowmeter functions are turned off. Check that the indicator is not showing.

Turn the cylinder off leaving the system charged for 30 minutes. Check that indicator does not come forward, which would suggest a leak in the system somewhere.

11.0 Procedures for Servicing

11.1 Flowmeter Module

The following General Safety Warnings apply: W1, W5, W6, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

b) Remove the 4 screws securing the Mounting Bracket.

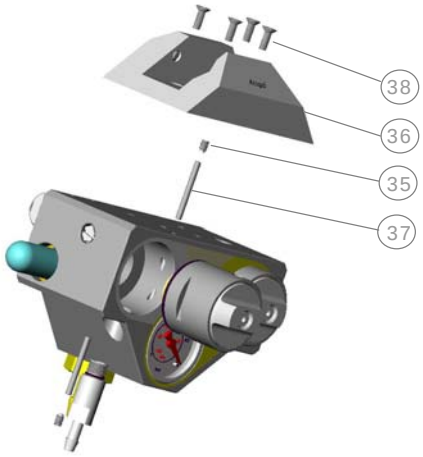
c) Using an 8 mm AF Open-Ended Spanner remove the Flowmeter Output Barb.

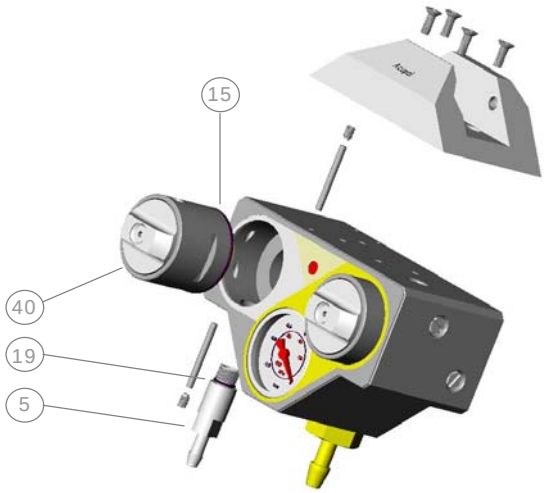
d) Remove the grub screws securing the dowels. Press the flowmeter into the manifold to allow the dowels to drop out of the manifold.

e) Remove the Flowmeter Module.

f) Assembly is the reverse of disassembly.

Note: When reassembling the Flowmeter fit new Flowmeter Body and Output Probe seals.





Ident	*Pt. No.*	*Description*	*Qty*
5	*602 0124*	*Flowmeter Output Barb*	*1*
15	*212 0030*	*O-ring, 34 x 2, Nitrile*	*1*
19	*212 0014*	*O-ring, 8 x 1.5, Viton*	*1*
35	*201 0034*	*Screw, M4 x 6, Grub*	*2*
37	*208 0015*	*Dowel, 3 x 30*	*2*
38	*201 0035*	*Screw, M4 x 12, CSK*	*4*
39	*602 0126*	*Universal Bracket*	*1*
40	*610 0052*	*Replacement Flowmeter Module Assembly*	*1*

11.2 Flowmeter Sub Assembly

The following General Safety Warnings apply: W1, W5, W6, W12, W13, W20 & W23

a) Remove the M4 Button Head Screw and withdraw the Carrier Plate Assembly from the flowmeter shaft.

Note: Do not disassemble the Carrier Plate Assembly unless there is reason to believe that the filter has become contaminated or one of the flow orifices has been compromised.

b) Pull the Control Knob complete with the Flowmeter Shaft away from the Flowmeter Body.

c) Remove the detent springs but leave the Control Knob Slider in place.

d) Remove and disgard the Output O-ring Seal from the Flow Plate Slider. Leave the Flow Plate Slider in place.

e) Remove the O-ring seals from the Flow Plate Drive Shaft and disgard; clean the shaft and the detents machined into the bottom of the Control Knob taking care not to allow cleaning fluid on the Decal Label. Refit new seals on the shaft and smear with a fine film of Krytox NRT-8908 grease before re-assembly.

f) Clean the detent holes in the Flowmeter Output Body, the detent balls and the detent springs.

g) Clean the Flow Plate Slider and the bottom of the Flowmeter Output Body. Fit new Output and Flowmeter Body seals.

h) Align the Control Knob Slider such that the hole on its periphery aligns exactly with the detent hole in the Flowmeter Body.

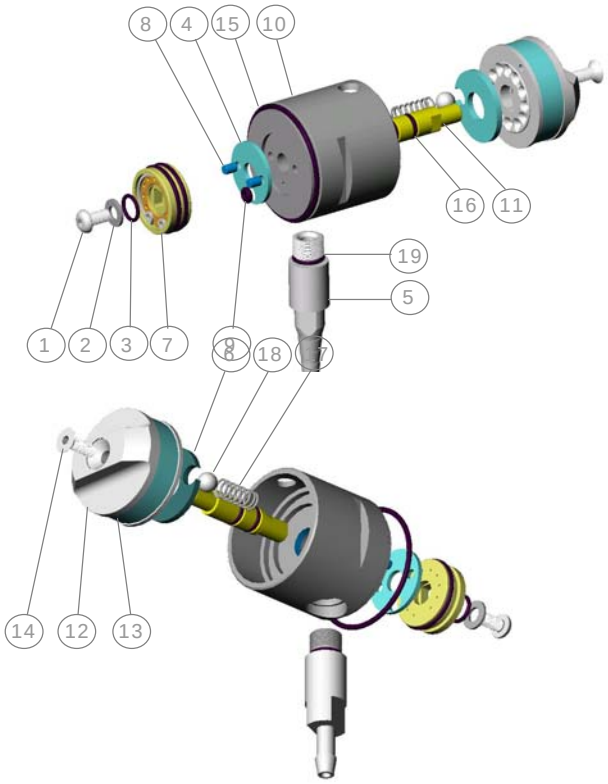
i) Hold the Flowmeter Body upright to fit the Detent Springs. Place the Detent Balls on top of the springs and refit the Drive Shaft maintaining compression when assembled.

j) Maintaining compression, turn the Control Knob so that the flowmeter reads 0 (zero).

k) Refit the Flowplate Carrier Assembly orienting it such that 'no-hole no-flow' area on the bottom of the carrier plate is adjacent to the Output Seal. Secure with the M4 Button Head Screw, washer and new compression seal.

l) Smear a fine layer of Krytox NRT-8908 grease on the outside of the Flowmeter Body Seal to aid re-assembly into the Oasis manifold

*Revision contingent control knob and drive shaft may be one unit.



Ident	*Pt. No.*	*Description*	*Qty*
1	*201 0028*	*Screw, M4 x 8, Button Head*	*1*
2	*207 0007*	*Washer, 4mm*	*1*
3	*212 0017*	*O-ring, 6 x 1.5, Nitrile*	*1*
4	*602 0110*	*Flow Plate Slider*	*1*
5	*602 0124*	*Flowmeter Output Barb*	*1*
6	*602 0095*	*Control Knob Slider*	*1*
7	*604 0028*	*Carrier Plate Assembly*	*1*
8	*208 0009*	*Dowel, 3 dia x 4mm*	*2*
9	*212 0015*	*O-ring, 1.78 x 1.78, Viton*	*1*
10	*602 0117*	*Flowmeter Output Body*	*1*
11	*602 0109*	*Drive Shaft*	*1*
12	*602 0093*	*Control Knob*	*1*
13	*703 0107*	*Decal Label*	*1*
14	*201 0025*	*Screw, M4 x 16, CSK*	*1*
15	*212 0030*	*O-ring, 34 x 2, Nitrile*	*1*
16	*212 0041*	*O-ring, 5.5 x 1.5, Nitrile*	*2*
17	*213 0007*	*Detent Spring*	*1*
18	*214 0001*	*Detent Ball*	*1*
19	*212 0014*	*O-ring, 8 x 1.5, Viton*	*1*

11.3 Suction Control Assembly

The following General Safety Warnings apply:
W1, W5, W6, W9, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

b) Remove the screw securing the Suction Control Knob. Pull the Control Knob from its shaft.

c) Remove the two Suction Body securing screws and nylon washers. Disgard the washers.

d) Pull the Suction Body away from the manifold.

Note: A twist and pull action may be required.

e) Unscrew the Control Needle from the Suction Body. Remove the two O-rings from the front of the Control Needle and disgard. Clean the needle and fit new O-rings.

Note: Take care when fitting the small O-ring as this is easily broken.

f) From within the manifold remove the Needle Seat. Remove the O-ring around the seat and disgard. Clean the seat and fit new O-ring seal. Clean the inside of the Oasis manifold and replace the Needle Seat.

g) Clean the Suction Body. Apply a thin film of Krytox NRT-8908 to the outside of the larger of the Needle O-rings and screw the Needle back into the Suction Body as far as it will go.

h) Fit a new Suction Body seal and smear its outside with a thin film of Krytox NRT-8908. Reassemble the Suction Body into the manifold making sure that a) the dowel is at the top of the manifold, and b) the securing screw holes in the Suction Body are aligned with those in the Manifold. Replace the securing screws using new nylon sealing washers and tighten.

i) Fit the Control Knob on the Control Needle sufficiently to allow you to turn the Control Needle, but not so far as to allow the stop pins on the Suction Body and the Control Knob to meet.

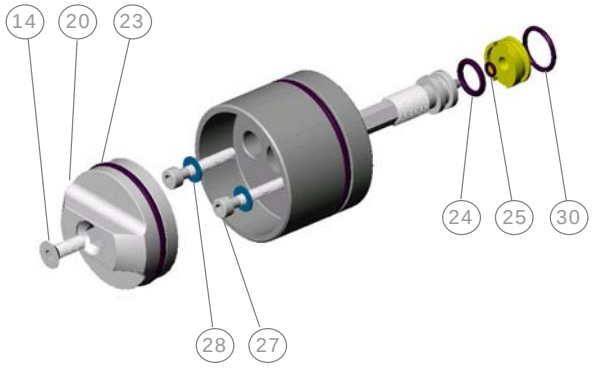
j) Turn the Control Knob clockwise until the Control Needle seats comfortably. Do not overtighten.

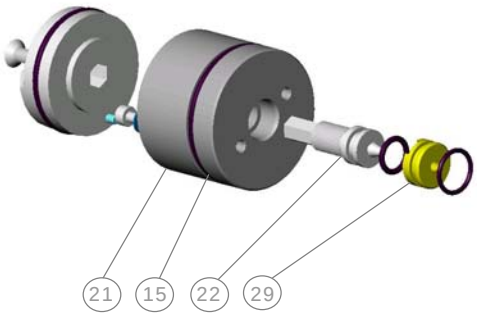
k) Remove the Control Knob and refit it such that the stop pin in the Control Knob is just to the right of the stop pin in the Suction Body.

l) Turn the Control Knob anticlockwise a sufficient angle (somewhere between 5^o and 60^o) until the stop pin in the Control Knob passes the stop pin in the Suction Body.

m) Press the Control Knob down onto the Control Needle and secure with the Countersink Screw.

Note: There should be sufficient movement in the Needle O-ring to provide a seal over an angle of more than 60^o movement of the Needle itself. The stop pins are designed to prevent over tightening of the Needle resulting in damage to the seal.





Ident	*Pt. No.*	*Description*	*Qty*
14	*201 0025*	*Screw, M4 x 16, CSK*	*1*
15	*212 0030*	*O-ring, 34 x 2, Nitrile*	*1*
20	*602 0128*	*Suction Control Knob*	*1*
21	*602 0129*	*Suction Body*	*1*
22	*602 0127*	*Suction Control Needle*	*1*
23	*212 0045*	*O-ring, 30 x 2, Viton*	*1*
24	*212 0053*	*O-ring, 7.2 x 1.9, Viton*	*1*
25	*212 0039*	*O-ring, 2 x 1, Viton*	*1*
26	*208 0006*	*Dowel, 2.5 x 6*	*1*
27	*201 0029*	*Screw, M3 x 20 Caphead*	*2*
28	*207 0011*	*Nylon Washer*	*2*
29	*602 0139*	*Control Needle Seat*	*1*
30	*212 0046*	*O-ring, 10 x 1.5, Viton*	*1*

11.4 Suction Venturi

The following General Safety Warnings apply: W1, W5, W6, W9, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

b) Remove the M3 Grub Screw below the Venturi Silencer.

c) Remove the M5 Plug from the manifold.

d) Using a suitable probe, passed through the hole left by the M5 port, push the Venturi Cartridge Assembly out of the manifold.

Note: A specific tool is not required to press the venturi out but care must be taken to select a tool that will not damage the venturi itself. Use a probe that has no sharp edges and apply firm but constant pressure.

e) Pull the coloured Venturi Cartridge from the Cartridge Retainer.

Note: The illustration shows a blue (medium suction) venturi cartridge, which may differ from that in the model you are working on. Venturi cartridge colour denotes different suction performance characteristics – refer Specification for further details.

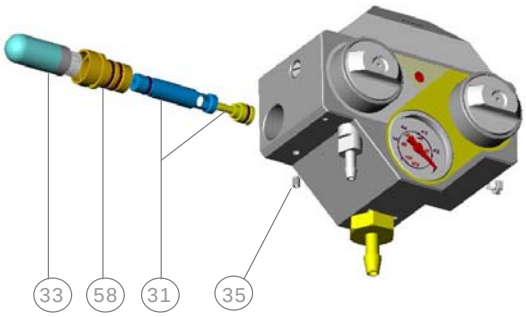
f) Unscrew the Venturi Silencer and disgard.

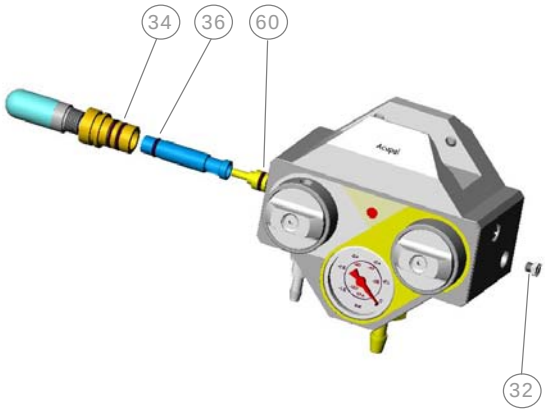
g) Remove the O-rings from all parts and disgard. Clean all parts, fit new O-rings and Venturi Silencer.

Note: Check that the orifice in the brass section of the Venturi Cartridge is clear from debris.

h) To assist reassembly, apply a thin film of Krytox NRT-8908 to the O-ring on the brass section of the Venturi Cartridge.

i) Assembly is the reverse of disassembly.





Ident	*Pt. No.*	*Description*	*Qty*
31	*301 0003*	*Venturi Cartridge (Blue)*	*1*
32	*303 0039*	*Plug, M5*	*1*
33	*504 0008*	*Venturi Silencer*	*1*
34	*212 0034*	*O-ring, 12.1 x 1.6, Viton*	*2*
35	*201 0034*	*Screw, M4 x 6, Grub*	*1*
36	*212 0073*	*O-ring, 6.07 x 1.78, Nitrile*	*1*
58	*602 0125*	*Venturi Cartidge Retainer*	*1*
60	*212 0089*	*O-ring, 6.75 x 1.78, Nitrile*	*1*

11.5 Suction Barb and Gauge

The following General Safety Warnings apply: W1, W5, W6, W9, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

b) Unscrew the Suction Barb using a 22mm AF Spanner and discard the O-ring seal.

c) Remove the Back Check Ball and Back Check Filter. Discard the filter.

d) Remove the Grub Screws securing the gauge release dowels. Whilst holding the Oasis upright, press the gauge back into the manifold to allow the dowels to drop out.

Note: It may be necessary to tap the top of the manifold whilst pressing the gauge in order to release the dowels.

e) Insert a small screwdriver into the suction barb orifice and lightly prise the suction gauge out of the front of the manifold.

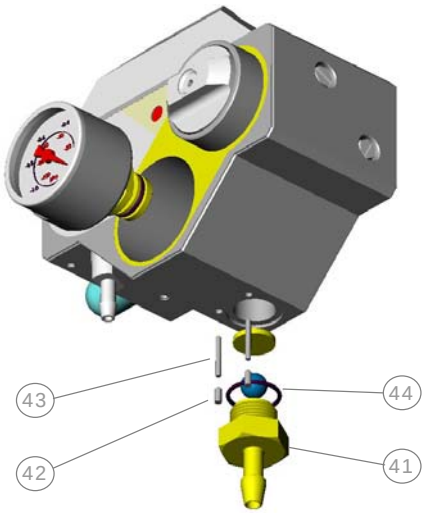
f) Clean the Manifold, Suction Barb and Back Check Ball.

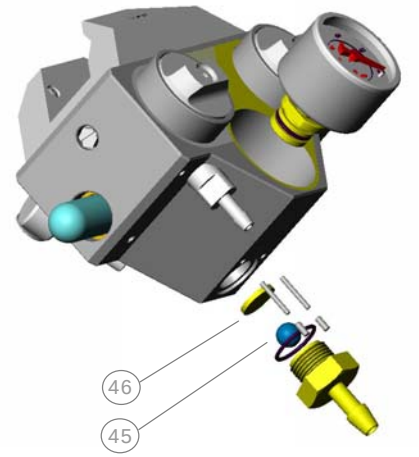
g) Disassemble the Suction Gauge Assembly, clean and reassemble according to section 11.6 below.

h) Apply a thin film of Krytox NRT-8908 onto the O-ring seal on the outside of the Suction Gauge Assembly before lightly pressing it back into the manifold. Drop the dowels back into place and secure with grub screws.

i) Note: The gauge may be oriented by placing your fingers on the lens and turning it.

j) Fit a new Back Check Filter. Place the Back Check Ball into the middle of the Back Check Filter and screw the Suction Barb, complete with new O-ring seal, into the manifold until flush.





Ident	*Pt. No.*	*Description*	*Qty*
41	*602 0123*	*Suction Barb*	*1*
42	*201 0026*	*Screw, M2.5 x 5, Grub*	*2*
43	*208 0011*	*Dowel 2 x 16*	*2*
44	*212 0031*	*O-ring, 17 x 1.5, Viton*	*1*
45	*214 0002*	*Back Check Ball*	*1*
46	*504 0007*	*Back Check Filter*	*1*

11.6 Swivel Elbow Assembly

The following General Safety Warnings apply: W1, W5, W6, W9, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

b) Remove the E-Clip from the Swivel Connector.

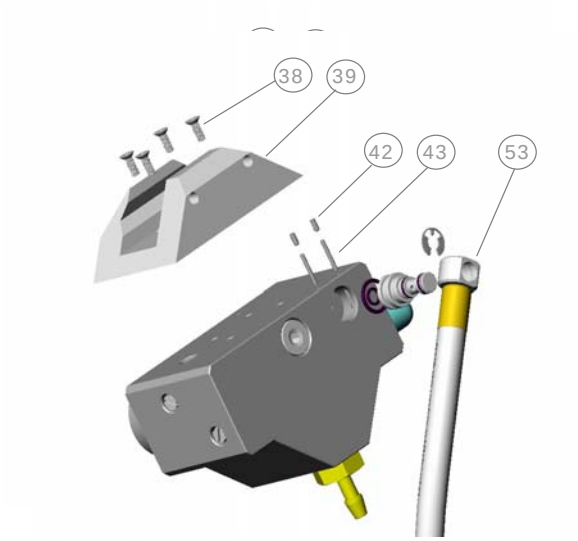
Note: E-Clips have a propensity to spring off when being removed. If you use a small-bladed screwdriver to prise the E-Clip off ensure that the E-Clip is shrouded by a cloth to prevent possible injury.

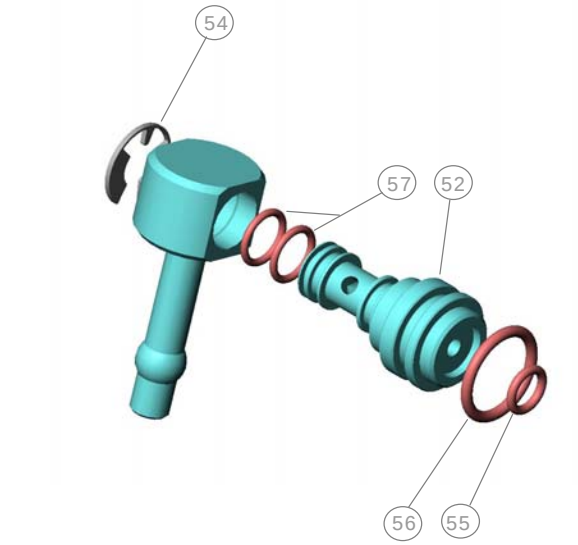
c) Slide the Hose Assembly off the Swivel Connector.

d) Discard the two Swivel Connector O-rings.

e) Clean the Swivel Connector.

f) Fit new O-rings and reassemble.





Ident	*Pt. No.*	*Description*	*Qty*
38	*201 0035*	*Screw, M4 x 12, CSK*	*4*
39	*602 0126*	*Universal Clamp*	*1*
42	*201 0026*	*Screw, M2.5 x 5, Grub*	*2*
43	*208 0011*	*Dowel, 2 x 16*	*2*
52	*602 0119*	*Swivel Connector*	*1*
53	*605 0030*	*Hose Assembly*	*1*
54	*208 0007*	*E-Clip, 7mm*	*1*
55	*212 0040*	*O-ring, 5 x 2, Nitrile*	*1*
56	*212 0007*	*O-ring, 13 x 2, Viton*	*1*
57	*212 0024*	*O-ring, 7 x 1.5, Viton*	*2*

12.0 Additonal Procedures for Repair

12.1 Suction Gauge Assembly

The following General Safety Warnings apply: W1, W5, W6, W9, W12, W13, W20 & W23

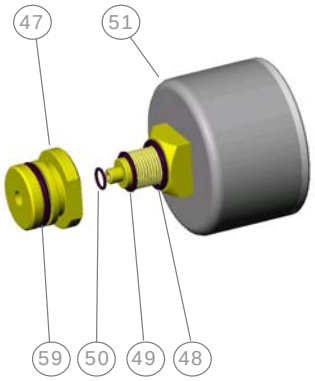
a) Unscrew the Gauge Adaptor from the Suction Gauge.

b) Discard the four O-ring seals.

c) Clean the Suction Gauge and Gauge Adaptor.

Note: Do not immerse the Suction Gauge in fluid as this will affect its accuracy. If there is reason to suspect that the gauge is contaminated then replace it.

d) Fit new seals and reassemble.



Ident	*Pt. No.*	*Description*	*Qty*
47	*602 0121*	*Suction Gauge Adaptor*	*1*
48	*212 0027*	*O-ring, 9.25 x 1.78, Viton*	*1*
49	*212 0028*	*O-ring, 7.5 x 1.5, Viton*	*1*
50	*212 0029*	*O-ring, 4 x 1, Viton*	*1*
51	*303 0033*	*Suction Gauge*	*1*
59	*212 0007*	*O-ring, 13 x 2, Viton*	*1*

12.2 Low Gas Pressure Indicator

The following General Safety Warnings apply: W1, W5, W6, W9, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

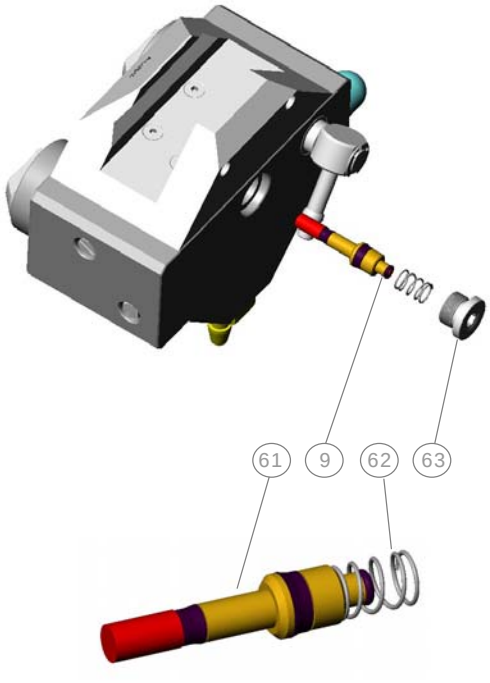
b) Remove the 1/4 BSP Plug using a 6.0 mm AF Allen Key.

c) Using a pair of long-nose pliers grip the back of the indicator assembly. Pull gently to remove.

Note: Replacement Indicators are supplied as factory assembled units.

d) Before re-assembly apply a thin film of Krytox NRT-8908 to each of the two Lip Seals on the indicator. Gently insert the indicator into its port and, using the long-nose pliers, push the indicator fully home whilst rocking it gently.

e) Refit the O-ring and spring before screwing home the plug.



Ident	*Pt. No.*	*Description*	*Qty*
9	*212 0015*	*O-ring, 1.78 x 1.78, Viton*	*1*
61	*604 0031*	*Indicator Assy*	*1*
62	*213 0009*	*Indicator Spring*	*1*
63	*303 0038*	*Plug, ¼ BSP*	*1*

12.3 Swivel Elbow Assembly

The following General Safety Warnings apply: W1, W5, W6, W9, W12, W13, W20 & W23

a) Disconnect Oasis from the gas supply.

b) Remove the E-Clip from the Swivel Connector.

Note: E-Clips have a propensity to spring off when being removed. If you use a small-bladed screwdriver to prise the E-Clip off ensure that the E-Clip is shrouded by a cloth to prevent possible injury.

c) Slide the Hose Assembly off the Swivel Connector.

d) Remove the Mounting Clamp by unscrewing the four M4 Screws that retain it.

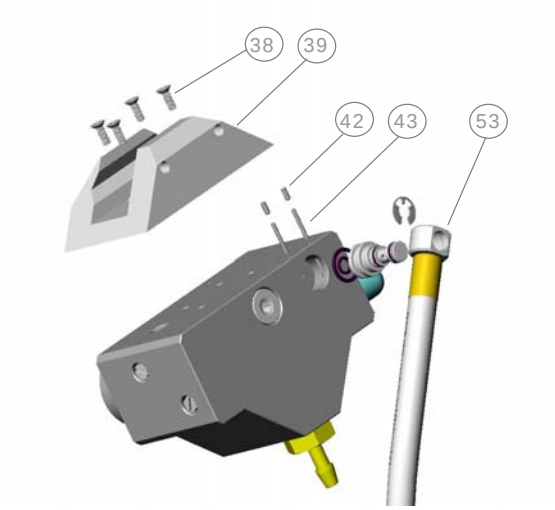
e) Unscrew the two M2.5 Grub screws that retain the securing dowels. Turn the Oasis upside down, press the Swivel Connector in towards the manifold and allow the dowels to drop out.

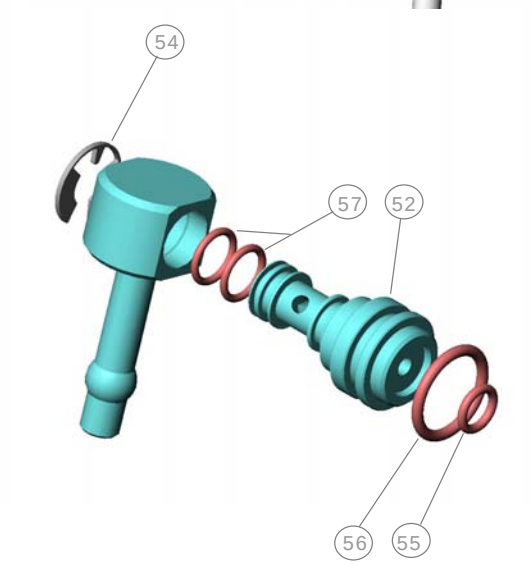
Note: It may be necessary to tap the bottom of the manifold whilst pressing the swivel connector in order to release the dowels.

f) Discard all old O-rings.

g) Clean the Swivel Connector.

h) Fit new seals and reassemble.





Ident	*Pt. No.*	*Description*	*Qty*
38	*201 0035*	*Screw, M4 x 12, CSK*	*4*
39	*602 0126*	*Universal Clamp*	*1*
42	*201 0026*	*Screw, M2.5 x 5, Grub*	*2*
43	*208 0011*	*Dowel, 2 x 16*	*2*
52	*602 0119*	*Swivel Connector*	*1*
53	*605 0030*	*Hose Assembly*	*1*
54	*208 0007*	*E-Clip, 7mm*	*1*
55	*212 0040*	*O-ring, 5 x 2, Nitrile*	*1*
56	*212 0007*	*O-ring, 13 x 2, Viton*	*1*
57	*212 0024*	*O-ring, 7 x 1.5, Viton*	*2*

13.0 Spare Parts

Parts are identified by Part Number throughout this manual and in most cases can be purchased individually. Service Kits include all parts required to service the Oasis based upon the instructions in this manual.

13.1 Service Parts & Kits

610 0049	Oasis Service Kit
610 0047	Krytox NRT-8908 Oxygen Tolerant Grease
504 0008	Venturi Silencer

14.0 Notes

Note from manufacturer: We welcome any suggestions you may wish to make that might improve this Service Manual. Please call or fax us on the numbers given on page 3. Thank you.